Ahlbergia haradai, a new Lycaenid Butterfly from Nepal

SUGURU IGARASHI
19-9, Shinohara Kita-1, Kôhoku-ku, Yokohama-shi, Japan

In June, 1963, the author took part in the Lepidopterological Research Expedition to Nepal Himalaya, and collected various lepidoptera in the neighbourhood of Kathmandu, capital of Nepal. A Lycaenid butterfly resulting from larvae collected there and then turned out to be a hitherto unknown species, which the author would like to describe here as a new species with coloured illustration of the imago and early stages.

The author is greatly indebted to Mr. T. G. HOWARTH, B.E.M., F.R.E.S., F.Z.S., the Department of Entomology, British Museum (Nat. Hist.) for his extreme kindnesses and advice extended to the author in the preparation of this paper. Thanks are also due to Dr. TAKASHI SHIRÔZU, Professor at Kyushu University, Dr. YOSHIHIKO KUROSAWA of the National Science Museum, Tokyo, and to Mr. TOYOHEI SAIGUSA, Associate Professor at Kuyshu University. Last but not least, the author would like to express his thanks to Dr. HIROSHI HARA, Professor Emeritus of Tokyo University, who kindly identified the larval foodplant of the butterfly.

The specific name is dedicated to Mr. MOTOHIRO HARADA, an L. S. J. member who has co-operated with the author during several expeditions to Nepal and elsewhere, and collected numerous valuable insects.

Ahlbergia haradai **Igarashi, sp. nov.**

(Sanshô-kotsubame=Prickly-ash Elfin)

Imago: Female, fore-wing length about 12 mm. Fore-wing laterally long, outer margin conspicuously protruding near vein 4; upperside light blue, with dim gloss; costa broadly margined with black; apex and outer margin also broadly black, with black area becoming serrate from space 2 to space 4. Fore-wing underside grey, dark at base; dark brown-centred black brown postdiscal markings running from costa down to vein 3; obscure dark brown submarginal band running close to margin; cilia short and dark brown.

Hind-wing rounded but giving a spuarish impression owing to protruding vein 3; upperside light blue with dim gloss, devoid of marginal band or spots—this is a remarkable characteristic of this butterfly; inner margin greyish white from anal angle on. Hind-wing underside grey but demarcated by black brown angular postdiscal line, inside which ground colour changes to intense dark brown; submarginally provided with wide but indistinct dark brown band, of which postdiscal side is darker than marginal side. Cilia dark brown; those at extremities of veins and around anal angle much longer than others. Antennae bare at end and orange yellow in colour but elsewhere covered with black scales; each segment of antenna white ringed posteriorly. Palpi black brown at extremities and the rest covered with long, yellowish white hairs.

Holotype ♀, Godavari near Kathmandu, Nepal, emerged on 23. iv. 1964 in Tokyo, (larva collected on 14. vi. 1963 at Godavari), collected and reared by S. IGARASHI; preserved in National Science Museum, Tokyo.

Last-instar larva: Head blackish brown, glossy, with white adfrontal suture; cranium about 1.51 mm wide. Body yellowish green and almost translucent, covered with short black hairs; body form flat dorso-ventrally but ridged subdorsally—therefore abdominal cross-section would be M-shaped; anterior margin of prothorax extended forward, with head deeply retracted in it when the larva is at rest; body laterally extended along basal line from mesothorax to posterior end, with thin edges on which the black hair is longer than elsewhere; segments from metathorax to 7th abdominal segment provided with a pair of obscure pink spots both on subdorsal and subspiracular lines; the subdorsal spot on 3rd abdominal segment more conspicuous than others, being on tubercles with

black tip covered with short black hairs; 8th abdominal segment flat and devoid of pink subdorsal spots; 9th and 10th segments fused together without trace of intersegmental line. No honey gland is provided.

Pupa: Dark brown with dull gloss, about 8.8 mm in length, roudish, swollen in abdomen: laterally viewed, abdominal dorsal ridge remarkably prominent. Fore- and middle-legs partially hidden under proboscis, and hind-legs entirely invisible; half-length of proboscis overlapped by the antennae, which touch each other beyond two-thirds the antennal length and reach posterior end of 4th abdominal segment. Fore-wing outer margin straight and coincident with posterior margin of 4th abdominal segment. Hind-wing only partially visible, dorsally on 1st and 2nd abdominal segments only. Spiracles on prothorax and 2nd to 7th abdominal segments orange yellow, and encircled by ridges. First abdominal segment provided with a pair of thin, subdorsal grooves running latitudinally; another such groove on 3rd abdominal segment but running dorsally. Elsewhere, from 2nd to 6th abdominal segments, there are two pairs of small elliptic subdorsal depressions on each side of the segment. Blunt subspiracular ridge starts from 3rd abdominal segment and runs caudad. Caudal extremity slightly bent downward ventrally. Numerous minute swellings and depressions present on surface of body; tiny dorsal depressions on thorax and abdomen provided with black brown setae, which are particularly long on anterior margin of prothorax and on posterior end of each abdominal segment.

Fig. 1–3. Pupa of *Ahlbergia haradai* sp. nov. サンショウコツバメ蛹.
1. Lateral view 側面. 2. Ventral view 腹面. 3. Dorsal view 背面.

Foodplant: Fruit of *Zanthoxylum oxyphyllum* (Rutaceae). The fruit measures about 7 mm across, and some twenty fruits grow in a bunch. Like many other Lycaenid larvae, the larva of this butterfly is a fruit-feeder.

Habits: Larvae are found on the foodplant in dark thicket. The mature larva bores a hole, almost 5 mm across, into the side of a fruit, hollowing it out then. Larva's association with ants was not observable at all.

Rearing Record: The author discovered and collected larvae of this butterfly on 14th June, 1963, at an altitude of about 2,400 m, halfway up Mt. Godavari, near Kathmandu. First, two larvae were

found sitting close together on the trunk, about 60 cm from the ground, of a prickly ash growing among the thicket. The thicket was entangled with various plants and the author was uncertain whether that was the foodplant, and had the larvae choose it from among an assortment of plants surrounding, and including, the prickly ash—which after all proved to be their foodplant.

Also, four other larvae collected from bunches of fruit of the same plant, on which they were feeding. One larva was preserved as specimen.

The larvae collected were all mature, pupating between 20th and 24th June. Another specimen was made of a pupa. The four pupae did not seem to be forming up, and overwintered in Japan. During the warm months, the pupae would make low, scraping noise due to friction of abdominal segmental skin, as in the case of pupae of Thecline butterflies. In winter, however, the noise became inaudible and there was no knowing whether a pupa was alive or dead. The pupae were kept among dead leaves on top of earth in a pot, which was placed indoors but suitably moistened and kept cool.

On 23rd April, 1964, a female insect emerged; three other pupae, however, had been dead, although known to have been fully formed up. The author is in possession of one immersed specimen each of larva and pupa.

摘　　要

1963年6月，日本鱗翅学会ヒマラヤ蝶蛾調査隊に参加した筆者は，ネパールの首都カトマンドゥーの周辺に採集を行ない，シジミチョウ科の1新種を発見したので，成虫および幼生期の着色図を付けてここに報告する．

この報文を綴るにあたり種の同定に多大の労をとられた大英博物館の T. G. HOWARTH 氏，日頃懇切な御指導を賜わる九州大学教養部教授白水　隆博士，国立科学博物館黒沢良彦博士，九州大学教養部助教授三枝豊平氏に対して厚く感謝の意を表する．また植物の同定は東京大学名誉教授原寛博士にお願いした．

ここに深甚な謝意を表したい．

種名はヒマラヤにおける筆者の数回にわたる探索に絶大な協力を与え，大きな成果をもたらされた本会々員原田基弘氏に献じたものである．

Ahlbergia haradai IGARASHI, sp. nov.

サンショウコツバメ（新種，新称）

成　虫： ♀前翅長約 12 mm. 前翅の形は横長で，外縁は第4脈端で著しく突出する．前翅表面は明るい淡青色で，弱い光沢がある．前縁は幅広く黒色にふちどられる．先端ならびに外縁も黒色を呈し，第2，3，4室外縁の黒色部の基部側は鋸状をなす．

前翅裏面は灰色で基部は暗色を呈する．中央よりやや外側寄りに黒褐色の不連続な縦条が前縁部から第3室後縁にかけて連なり，その内側は外側にくらべて強く暗褐色をおびる．亜外縁の外側部分には形の不明瞭な暗褐色帯を有する．縁毛は短く，暗褐色を呈する．

後翅は丸味をおびているが，第3脈が突出しているため角ばった形をなす．翅表は全域にわたり明るい淡青色で弱い光沢があり，外縁にふちどりの斑紋を有しない．これが本種の特徴である．肛角から内縁にかけては灰白色を呈する．

後翅裏面は灰色を呈し，中央部には凹凸に富む黒褐色条が縦走し，その基部側は強く暗褐色をおびる．亜外縁には形の不明瞭な，幅の広い暗褐色帯があり，内側に近づくに従って濃色となる．縁毛は暗褐色で各翅脈の先端付近および肛角周辺のものは特に長い．

触角の先端部は鱗粉を欠き露出して黄橙色を呈するが，残部は黒色鱗粉に覆われており，各環節の後縁は環状に白色を呈する．

下唇鬚の先端部は黒褐色で，その他は黄白色の長毛におおわれている．

完模式標本♀： ネパール国カトマンドゥー市附近ゴダバリにて1963年6月14日，筆者が幼虫を採集，飼育し，

1964年4月23日東京で羽化したもの．国立科学博物館所蔵．

終令幼虫： 頭部は黒褐色で光沢があり，縫合線は白色を呈する．頭幅は約 1.51 mm.

体色は帯黄緑色で半透明，全域に黒色の短毛を生じる．概形は扁平であるが左右両亜背線が高く盛り上って断面はM字型をなす．第1胸節前縁は薄く庇状に突出し，頭部はその下に深く後退する．第2胸節から尾端にいたる基線も左右に張出しており，その先端は薄い．この部分に生じる毛は他の部分のものより長い．第3胸節から第7腹節にいたる亜背線上および気門下線上には各節1対の輪郭不明瞭な淡紅色の紋があり，第3腹節亜背線上のものは特に発達，隆起してその先端は黒色の瘤となっている．瘤には黒色の短毛を生じる．第8腹節はすでに扁平となり，亜背線上の紅色紋を欠く．

第9腹節以下は完全に融合していて環節の跡を見出すことはできない．蜜腺はない．

蛹： 体長約 8.8 mm. 概形はダルマ形で，側面から見ると特に腹部背面が高くふくれている．

前脚と中脚は先端半分が口吻の下にかくれ，後脚は全く外部からは見えない．口吻も半分から先は触角にかくれる．触角は基部から全長の約 2/3 の点にいたり左右合着し，第4腹節後縁に達する．

前翅外縁は第4腹節後縁と合致し，直線状をなす．後翅は第1，2腹節背面の両側にわずかにのぞくだけで，他の部分には現われない．前胸と中胸の境にある気門，および第2～7腹節の気門はいずれも橙黄色を呈し周囲が隆起する．

第1腹節の亜背線上には左右1対の横長の細い溝を有する．また第3腹節背線上には1本の横長の細い溝がある．この他，第2～6腹節の亜背線上にはそれぞれ2対の楕円形の凹みがある．第3腹節以下の各節の気門下線は突出してにぶい陵線をなす．尾端はわずかに体の下面に向って彎曲する．

体色は暗褐色で半光沢を有する．体表には微小な凹凸が多数散在する．胸部および腹部の背面には多数の小さな凹みがあり，黒褐色の剛毛を生じる．特に前胸部前縁および腹部各節後縁に生じる毛は長い．

食性： ミカン科 Rutaceae サンショウ属 (*Zanthoxylum*) の *Z. oxyphyllum* の果実を喰う．

食樹の果実は直径約 7 mm の球形で通常 20 個前後の房をなしている．他のシジミチョウ科幼虫と同様，本種も好んで果実を喰うものである．

習性： 幼虫は暗い樹林内の食樹に見出される．果実の側面に直径約 5 mm の孔を開け頭部を突込んで果肉を喰う．蟻との接触は全く観察されなかった．

飼育経過： 筆者は1963年6月14日，本種幼虫をカトマンドゥー(Kathmandu)附近のゴダバリ (Godavari)の中腹標高約 2,400 m の位置で発見した．幼虫は深い草藪にかこまれた食樹の幹，地上約 60 cm の位置に相接して2匹が静止していた．

茂みの中には各種の植物が入り交っていたため食草の判定がつかず，周辺の植物数種類を持帰ったが，結局上記のものを喰うことが判明した．

同時に採集した数房の同種の果実から摂食中の幼虫4頭を採集し，計6頭が得られた．

幼虫はいずれも終令であり，6月20～24日の間に全部蛹化した．蛹は全く羽化の徴候を見せず，日本において越冬した．夏期にはミドリシジミ類の蛹と同様に，手を触れるとギギギギ……という腹部環節の摩擦音を発したが，冬期になるとこの音が聞かれなくなったため，生死の判別が不能となった．筆者は植木鉢に土を入れ落葉を敷いてその中に蛹を置いた．そしてこれを暖房のない室内に置き，湿度を絶やさぬように注意した．1964年4月23日，1♀が羽化したが，他の3頭の蛹は成虫化が起って羽化直前までいたっていながら羽化できずに死亡した．筆者の手もとには終令幼虫，蛹のそれぞれ1頭の液漬標本が保存されている．

Explanation of plates

Plate 1.
Ahlbergia haradai sp. nov. ♀ (holotype)
Emerged April 23, 1964.
Mt. Godavari, Kathmandu Valley, Nepal.
Preserved in National Science Museum, Tokyo.
Fig. 1 Upperside
Fig. 2 Underside
Fig. 3 Final instar larva (Dorsal view)
Fig. 4 Do. (Lateral view)
Fig. 5 Pupa (Dorsal view)
Fig. 6 Do. (Lateral view)
Fig. 7 Final instar larva on bunch of fruit
Fig. 8 Fruit bored by final instar larva

着色図版の説明

サンショウコツバメ（雌）完模式標本
1964年4月23日 羽化
ネパール カトマンドゥー盆地 ゴダバリ山
国立科学博物館所蔵
Fig. 1 表 面
Fig. 2 裏 面
Fig. 3 終令幼虫（背面）
Fig. 4 同 上（側面）
Fig. 5 蛹 （背面）
Fig. 6 同 上（側面）
Fig. 7 果実の房に静止する終令幼虫
Fig. 8 終令幼虫に喰い荒らされた果実

食樹写真の説明

Plate 2.
Foodplant of *Ahlbergia haradai* サンショウコツバメの食樹
Zanthoxylum oxyphyllum EDGEWORTH
Fig. 1 Branch 姿
Fig. 2 Flowers 花
Fig. 3 Fruit 果 実
Fig. 4 Leaflet 葉
Fig. 5 Stem 茎

1
2
3
4
5
6
7
8

2
3
4
1
5
0
1
2
3
4
5